

1. AMENDMENTS IN THE SPECIFICATION:

In paragraph [302], please replace Table 7 with the following Table 7:

TABLE 7
SUMMARY OF MUTANTS

Mutant^a	Type^b	Amino Acid Positions^b	SEQ ID NO:	Class	Phenotype^c
<i>mut1</i> ¹	Ala sub	9-13 DWLED-AWLAA	50	1	wt
<i>mut2</i> ¹	Ala sub	24-28 KLKPG-ALAPG	51	1	wt
<i>mut3</i> ²	Ala sub	33-37 KPKER-APAAA	52	1	wt, surface
<i>mut4</i> ²	Ala sub	39-43 KDDSR-AAASA	53	2a	pd, hep ⁺
<i>mut5</i> ³	Ala sub	63-67 EPVNE-APVNA	54	2a	pd, hep ⁺
<i>mut6</i> ²	Ala sub	67-71 EADAA-AAAAA	55	2a	pd, hep ⁺
<i>mut7</i> ²	Ala sub	74-78 EHDKA-AHAAA	56	2a	pd, hep ⁺
<i>mut8</i> ²	Ala sub	76-80 DKAYD-AAAYA	57	2a	pd, hep ⁺
<i>mut9</i> ¹	Ala sub	84-88 DSGDN-ASGAN	58	1	wt
<i>mut10</i> ²	Ala sub	95-99 HADAE-AAAAA	59	2a	pd, hep ⁺
<i>mut11</i> ²	Ala sub	102-107 ERLKED-AALAAAA	60	1	wt
<i>mut12</i> ²	Ala sub	122-126 KKRVL-AAAVL	61	2a	pd, hep ⁺
<i>mut13</i> ²	Ala sub	142-146 KKRPV-AAAPV	62	1	wt
<i>mut14</i> ¹	Ala sub	152-156 EPDSS-APASS	63	1	wt
<i>mut15</i> ²	Ala sub	168-172 RKRLN-AAALN	64	2a	pd, hep ⁺
<i>mut16</i> ²	Ala sub	178-182 GDADS-GAAAS	65	1	wt
<i>mut17</i> ¹	Ala sub	180-184 DSVPD-ASVPA	66	1	wt
<i>mut18</i> ²	Ala sub	216-220 EGADG-AGAAG	67	2a	Pd, hep ⁺
<i>mut19</i> ¹	Ala sub	228-232 WHCDS-WACAS	68	4b	ni, no capsid
<i>mut20</i> ²	Ala sub	235-239 MGDRV-MGAAV	69	4b	ni, no capsid
<i>mut21</i> ⁴	Ala sub	254-258 NHLYK-NALYA	70	2b	pd, unstable capsid
<i>mut22</i> ⁴	Ala sub	268-272 NDNHY-NANAY	71	4a	ni, full particle

Mutant ^a	Type ^b	Amino Acid Positions ^b	SEQ ID NO:	Class	Phenotype ^c
<i>mut23</i> ⁴	Ala sub	285-289 NRFHC-NAFAC	72	4b	ni, no capsid
<i>mut24</i> ²	Ala sub	291-295 FSPRD-FSPAA	73	4b	ni, no capsid
<i>mut25</i> ²	Ala sub	307-311 RPKRL-APAAL	74	4b	ni, no capsid
<i>mut26</i> ²	Ala sub	320-324 VKEVT-VAAVT	75	3a	hs
<i>mut27</i> ¹	Ala sub	344-348 TDSEY-TASAY	76	3a	hs
<i>mut28</i> ²	Ala sub	384-385 AAA		3a	cs
<i>mut29</i> ¹	Ala sub	389 R-A		1	wt
<i>mut30</i> ²	Ala sub	415-419 FEDVP-FAAVP	77	2a	pd, hep ⁺
<i>mut31</i> ⁴	Ala sub	432 R-A		4c	ni, empty particle
<i>mut32</i> ²	Ala sub	454-456 TTT-AAA	78	1	wt
<i>mut33</i> ²	Ala sub	469-472 DIRD-AIAA	79	3a	hs
<i>mut34</i> ²	Ala sub	490-494 KTSAD-ATSAA	80	2a	pd, hep ⁺
<i>mut35</i> ²	Ala ins	509 AAAA	81	3b	cs, hep ⁻ , surface
<i>mut36</i> ¹	Ala sub	513-517 RDSLV-AASLV	82	2a	pd, hep ⁺
<i>mut37</i> ²	Ala sub	527-532 KDDEEK-AAAAA	83	4a	ni, full particle
<i>mut38</i> ²	Ala sub	547-551 SEKTN-SAATN	84	1	wt
<i>mut39</i> ²	Ala sub	553-557 DIEKV-AIAAV	85	2b	pd, unstable capsid
<i>mut40</i> ²	Ala sub	561-565 DEEEI-AAAAI	86	4d	ni, hep ⁻ , full particle, surface
<i>mut41</i> ²	Ala sub	585-588 RGNR-AGAA	87	2c	pd, hep ⁻ , surface
<i>mut42</i> ²	Ala sub	607-611 QDRDV-QAAAV	88	4b	ni, no capsid
<i>mut43</i> ²	Ala sub	624-628 TDGHR-TAGAF	89	1	wt
<i>mut44</i> ¹	Ala sub	637-641 FGLKH-FGLAA	90	1	wt
<i>mut45</i> ²	Ala sub	665 K-A		1	wt
<i>mut46</i> ²	Ala sub	681-683 EIE-AAA	91	4b	ni, no capsid
<i>mut47</i> ²	Ala sub	689-693 ENSKR-ASSAA	92	4b	ni, no capsid
<i>mut48</i> ¹	Ala sub	706 K-A		2a	Pd, hep ⁺

Mutant ^a	Type ^b	Amino Acid Positions ^b	SEQ ID NO:	Class	Phenotype ^c
L1	HA ins	266		2a	pd, A20 ⁻ , A20 epitope ⁻ , surface
L2	HA ins	328		4a	ni, A20 ⁺ , surface
L3	HA ins	447		2a	pd, hep ⁺ , surface
L4	HA ins	522		4d	ni, hep ⁻ , surface
L5	HA ins	553		4a	ni, A20 ⁺ , surface
L6	HA ins	591		2c	pd, hep ⁻ , surface
L7	HA ins	664		2a	pd, hep ⁺ , surface
VPN1	HA, AU ins	1		2a	pd, hep ⁺ , surface
VP1	HA ins, Ser sub	34		2a	pd, hep ⁺ , surface
VPN2 ^d	HA, Ser ins	138		2a	pd, hep ⁺ , surface
VPN3	HA, Ser ins	203		4b	ni, no capsid
VPC	HA, Ser, AU, His ins	735		4b	ni, no capsid
<i>mut1subser1</i>	Ser sub	10		4a	ni, A20 ⁺
<i>mut2subser2</i>	Ser sub	24		4a	ni, A20 ⁺
<i>mut3subser3</i>	Ser sub	34		2a	pd, hep ⁺
<i>mut9subser4</i>	Ser sub	84		4a	ni, A20 ⁺
<i>mut14subser5</i>	Ser sub	150		4a	ni, A20 ⁺
<i>mut16subser6</i>	Ser sub	178		4b	ni, no capsid
<i>mut19subser7</i>	Ser sub	224		4b	ni, no capsid
<i>mut32subser8</i>	Ser sub	454		4b	ni, no capsid
<i>mut37subser9</i>	Ser sub	526		4b	ni, no capsid
<i>mut39subser10</i>	Ser sub	553		4b	ni, no capsid
<i>mut40subser11</i>	Ser sub	562		4b	ni, no capsid
<i>mut41subser12</i>	Ser sub	590		4b	ni, no capsid

Mutant ^a	Type ^b	Amino Acid Positions ^b	SEQ ID NO:	Class	Phenotype ^c
<i>mut44subser13</i>	Ser sub	638		4b	ni, no capsid
<i>mut45subser14</i>	Ser sub	664		4b	ni, no capsid
<i>mut46subser15</i>	Ser sub	682		4b	ni, no capsid
<i>mut4subflg2</i>	FLAG sub	39		4a	ni, A20 ⁺
<i>mut8subflg3</i>	FLAG sub	76		4a	ni, A20 ⁺
<i>mut16subflg4</i>	FLAG sub	178		4a	ni, A20 ⁺
<i>mut32subflg5</i>	FLAG sub	454		4a	ni, A20 ⁺
<i>mut37subflg6</i>	FLAG sub	526		4a	ni, A20 ⁺
<i>mut38subflg7</i>	FLAG sub	547		4a	ni, A20 ⁺
<i>mut40subflg8</i>	FLAG sub	562		4b	ni, no capsid
<i>mut44subflg9</i>	FLAG sub	638		4b	ni, no capsid
<i>mut45subflg10</i>	FLAG sub	664		4b	ni, no capsid
<i>mut46subflg11</i>	FLAG sub	682		4b	ni, no capsid

^a Superscripts 1 to 4 indicate that a restriction site was introduced as a result of the alanine substitution mutation: 1, *NheI*; 2, *EagI*, 3, *HpaI*; 4, *MluI*.

^b Ala sub, alanine substitution mutant; Ala ins, string of alanine residues inserted after the indicated amino acid; HA, AU, His, or Ser ins, insertion of the HA, AU, His, or Ser epitope immediately after the indicated amino acid of wt cap; Ser or FLAG sub, substitution of the Ser or FLAG epitope for the wt AAV capsid sequence beginning immediately after the indicated AAV amino acid residue. Amino acid tags: HA, YPYDVPDYA (SEQ ID NO:36); AU, DTYRYI (SEQ ID NO:37); His, HHHHHH (SEQ ID NO:38); Ser, FVFLI (SEQ ID NO:39); FLAG (SEQ ID

NO:40), DYKDDDDK (SEQ ID NO:41).

- ^c pd, partially defective for infectivity, between 1 to 3 logs lower than wt; cs and hs, cold sensitive and heat sensitive, respectively; ni, noninfectious, 5 logs lower than wt; hep⁺, mutant bound to a heparan column; hep⁻, mutant did not bind to heparan sulfate; no capsid, mutant was A20 ELISA negative and MAb B1 negative; A20⁺, mutant could be detected with A20 antibody; surface, position was present on the surface of the capsid.
- ^d The serpin insertion in VPN2 was KFNKPFVFLI (SEQ ID NO:42).

After paragraph [995], please replace the current Sequence Listing filed on August 31, 2005 with the enclosed Sequence Listing (pages 1-20) filed herewith.